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EXAMINER

PAULRAJ, CHRISTOPHER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 22

Application Number: 09/147,813
Filing Date: August 31, 1999
Appellant(s): BRAVET ET AL.

MAILED

OCT 22 2002

GROUP 1700

Harris A. Pitlick
For Appellants

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 22, 2002.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement that there are no related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellants' statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 40-65 stand or fall together because appellants' brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

4,112,171	Motter et al.	9-1978
5,525,401	Hirmer	6-1996
5,849,414	Bier et al.	12-1998
4,634,637	Oliver et al.	1-1987
4,386,042	Tatebayashi	5-1983
EP-A1-0718348	Bier	6-1996
EP-A1-0524417	Arpac et al.	6-1992

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Jean-Michel Charrier, Polymeric Materials and Processing 469-70 (1991)

(10) Grounds of Rejection

63-
The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 40-45, 49, 52, and 62 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Motter et al. (U.S. Patent number 4,112,171) in view of Hirmer (U.S. Patent number 5,525,401).

Claims 40-52 are considered to be product-by-process claims. The invention defined in a product-by-process claim is a product. *In re Bridgeford*, 357 F. 2d 679, 149 U.S.P.Q. 55 (C.C.P.A. 1996). It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown*, 459 F. 2d 531, 173 U.S.P.Q. 685 (C.C.P.A. 1972); *In re Wertheim*, 541 F. 2d 257, 191 U.S.P.Q. 90 (C.C.P.A. 1976).

Motter et al. discloses a multilayer automotive glazing in which a transparent substrate is coated with a plastic layer with a scratch-resistant coating thereon. While the examples disclosed by Motter et al. utilize a glass material as the transparent substrate, the reference clearly states that "an all-plastic structure" may be used for this purpose (col. 1, lines 36-38). One skilled in the art would have found it obvious to substitute the glass substrate disclosed by Motter et al. for an all-plastic structure. The motivation for doing so would have been to reduce the overall weight of the automotive glazing. For example, Hirmer discloses that motor vehicle windows can be made using plastic materials, such as polycarbonate, in lieu of glass in order to reduce the weight (col. 1, lines 20-25).

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Motter et al. discloses that the thickness of glass substrate may vary from approximately 0.040 inches (1.016 mm) up to 1/8 inch (3.175 mm) **and beyond** (col. 3, lines 60-65). One of ordinary skill in the art would have found it obvious to adjust this thickness to between 5 and 10 mm, as required by the instant claims. The motivation for doing so would have been to increase the overall strength of the laminated glazing. For example, Hirmer discloses that the relatively thick substrate layer used to make his motor vehicle windows has a thickness within an operative range of 50 to 500 mils (1.27 to 12.7 mm) (col. 3, lines 53-54).

It is also the examiner's position that since the laminated structure disclose by Motter et al. is intended to be used as automobile glazing structure, one skilled in the art would have found it obvious to ensure that it meets all the necessary automobile safety standards.

2. Claims 46 and 47 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Motter et al. in view of Hirmer as applied to claim 40 above, and further in view of Bier et al. (U.S. Patent number 5,849,414).

Motter et al. does not specifically disclose that the scratch resistant layer comprises a hydrophobic/oleophobic agent obtained from precursor silanes having a hydrolyzable alkoxy or halo functional group at one end and a perfluorinated carbon chain at the other end. However Bier et al. discloses scratch resistant polycarbonate molded parts in which the scratch resistant layer preferably comprises fluorinated silanes. It would have been considered obvious to one of ordinary skill in the art to add hydrophobic fluorinated silanes to the hard coating layer of Motter et al. The motivation

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for doing so would have been to impart water-resistant properties to the laminated glazing.

3. Claims 48, 50, and 51 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Motter et al. in view of Hirmer as applied to claim 40 above, and further in view of Oliver et al. (U.S. Patent number 4,634,637).

Oliver et al. discloses solar control film that is to be laminated onto a motor vehicle window structure. The reference discloses that decorative layers such as film died in a vignette pattern are known to be applied to motor vehicle windows (col. 1, lines 30-35). Oliver et al. also discloses that the solar control film can also include optically selective metal layers with a thickness between 2 and 35 nm separated by dielectric layers (col.6-col.7). It would have been considered obvious to one of ordinary skill in the art to apply a laminated structure with decorative and/or optically selective layers onto a motor vehicle window. The motivation for doing so would have been to enhance the appearance and/or the optical properties of the laminated glazings.

4. Claims 53-61 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Motter et al. in view of Hirmer as applied to claim 40 above, and further in view of Tatebayashi (U.S. Patent number 4,386,042).

Tatebayashi discloses a process for making a synthetic resin article having a hard coating. Tatebayashi discloses a wide variety of potential applications including transparent articles such as windows for meters and clocks, and lenses or covers for automobile headlights (col. 1, lines 10-20). It would have been considered obvious to use the disclosed method to make motor vehicle windows, such as that disclosed by

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Motter et al. Tatebayashi discloses a process in which a plastic film is coated with a hardcoating layer and then subjected to a heat treatment/curing step (col. 3, lines 25-40). The hardcoating layer can be applied by means of a spray coating or immersion coating technique (col.2, lines 23-25). The heat treatment step in the example is disclosed to occur at a temperature of about 130°C (col. 6, line 54). Tatebayashi discloses that the molded part can be subjected to a complete heat-forming process in accordance with the desired form of the metal mold cavity within the metal mold (col. 10, lines 13-18). Since the shaping process can occur within a heated mold, the hardcoating layer will be at least partly crosslinked at the same time the article is shaped. While Tatebayashi does not disclose that the heat treatment occur at a temperature of from 140°C to 240°C, one of ordinary skill in the art would have found it obvious to adjust the temperature to this level. The motivation for doing so would have been to impart better chemical/physical properties to the hardcoating layer. Since the process referred to by Tatebayashi involves injecting a resin material into a cavity of a mold (col. 7, lines 12-15), the mold is considered to be a frame open at its center. One of ordinary skill in the art would have also found it obvious to include other functional layers, such as those disclosed by Motter et al. and Oliver et al., in addition to the scratch resistant hardcoating layer prior to the shaping step. The motivation for doing so would have been to impart better physical/chemical properties to the laminated glazing structure.

5. Claims 44 and 63-65 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Motter et al. in view of Hirmer as applied to claim 63 above, and

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further in view of EP-A1-0524417 (EP '417) and EP-A1-0718348 (EP '348). EP '417 and EP '348 disclose the claimed scratch resistant layer comprising a network of entangled organic and inorganic chains linked to each other by silicon-carbon bonds, which are provided by Ormocer varnish. These coatings are known to be used as scratch resistant coatings and have an advantage over the prior art in that they require less hardening time (see abstract). One skilled in the art would therefore have found it obvious to use these coatings as the scratch resistant layer of the structure provided by Motter et al. The motivation for doing so would have been to provide a coating layer that requires less hardening time.

(11) Response to Argument

With respect to the rejection of claim 40 (set forth above), Appellants question why one skilled in the art would use the plastic substrate of Hirmer, with its disclosed thickness, in place of the glass substrate of Motter et al. They ask, "[w]hy, for example, would one skilled in the art not also incorporate the relatively thin sheet of Hirmer, which has a thickness . . . which is greater than both the presently-recited at least one skin layer and said scratch-resistant layer?" (Appeal Brief p. 6). They consequently conclude that the "Examiner has selected from Hirmer only that which supports the rejection, without considering the reference as a whole." (*Id.*)

In response, the Examiner previously pointed out that, although most of the primary reference is directed towards a glass substrate, Motter et al. clearly disclose that "an all-plastic structure" may be used for the purpose of their invention (col. 1, lines 36-38). Furthermore, as taught by Hirmer, one skilled in the art would have found

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it obvious to use plastic materials, such as polycarbonate, in lieu of glass in order to reduce the weight of a motor vehicle window (col. 1, lines 20-25). Hirmer is not relied upon for anything other than the teaching of an all-plastic substrate used in motor vehicle windows. One skilled in the art, when looking for further guidance to practice the suggestion by Motter et al. that "an all-plastic structure" may be used would have found it obvious to look to other teachings in the art, such as Hirmer's disclosure of plastic substrates. There is no reason why one skilled in the art, looking to Hirmer for further guidance to use an all plastic substrate in automotive glazings, would necessarily have to also incorporate the "relatively thin sheet" taught in the reference. In arguing so, Appellants misapply the holding of *In re Erreich*, 200 USPQ 504 (CCPA 1979) to the circumstances of the present application. One skilled in the art, when looking to the prior art for a specific teaching (e.g., the use of plastic substrates in this case), would not necessarily have to incorporate *all other features* disclosed in a prior art reference unless those features are considered integral to the practice of that teaching. Unlike the reference applied in *Erreich*, Hirmer does not specifically *teach away* from using a plastic substrate without also using the "relatively thin sheet." In this case, the use of a "relatively thin sheet" as taught by Hirmer is not considered to be inextricable from the use of the plastic substrate also taught by Hirmer.

Appellants argue that the motivation provided by Hirmer to use plastic substrates is insufficient because the reference goes on to disclose that glass continues to be used because it is apparent that in order for motor vehicle manufacturers to shift from glass to plastics, the plastic window must be cost effective in other ways besides weight

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reduction (col. 1, lines 25-28). This line of reasoning is unpersuasive because one skilled in the art would have found it obvious make a cost-benefit analysis to determine whether or not the increased costs associated with using a plastic substrate outweigh the benefits derived from the lower weight associated with a plastic substrate. While Hirmer recognizes that there may be certain disadvantages with using a plastic substrate, the reference nevertheless provides motivation to use such materials and goes even further by teaching the use of a plastic substrate in motor vehicle windows—in the manner suggested by Motter et al. and disclosed by Appellants in the present application.

Appellants also argue that the holding of *In re Rose*, 105 USPQ 237 (CCPA 1955) that the size of an article “is not ordinarily a matter of invention” is not an absolute rule. (Appeal Brief p. 7). Appellants then, in a somewhat non sequitur statement, admit that “where it clear that the prior art disclosed or suggested that a glass substrate could be substituted with a plastic substrate to obtain a functionally similar article without consideration of any factors except weight, then the Examiner may have a point as to the obviousness of making the substitution.” (*Id.*) The Examiner notes that the above-quoted statement does not argue against the reasons set forth in the rejection for the obviousness of changing the thickness of the substrate layer disclosed by Motter et al. to within the claimed range. Rather, it attacks the motivation for substituting a glass substrate with a plastic substrate. As stated above, one skilled in the art would have found it obvious to use plastic substrates in the automotive glazing taught by Motter et al. Since Motter et al. discloses that the substrate can have a thickness of 1/8 inch

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(3.175 mm) **and beyond** (col. 3, lines 60-65), one skilled in the art would have found it obvious to use the thickness ordinarily associated with plastic substrates in automotive glazings. For example, Hirmer discloses that the relatively thick substrate layer used to make his motor vehicle windows has a thickness within an operative range of 50 to 500 mils (1.27 to 12.7 mm) (col. 3, lines 53-54).

Appellants then argue that the claimed products have inherent advantages when made from the recited process steps, citing to the specification page 7, line 24. The cited portions, however, do not show that recited process causes improved properties in the claimed product by comparison with the properties of the product disclosed in the prior art. For example, the improved flaking resistance recited in page 7, lines 34-35, is disclosed be the result of choosing the composition of the scratch resistant coating and not the recited process. It has been the examiner's position that the product of Motter et al. is identical to or only slightly different than the product prepared by the method of the claim(s) for the reasons set forth above. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Since Motter et al. strongly suggested the claimed subject matter, the burden was shifted to the Appellant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). Appellants,

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however, have failed to show that any difference between the prior art and the claims are unobvious variations that are the result of the recited process steps.

With respect to the rejections of claims 41, 42, 43, 44, 45, 49, 52, 62, and 63 Appellants simply assert patentability without providing any reasons in support of their contention that the combination of Motter et al. and Hirmer neither discloses nor suggests that the claimed features. (see Appeal Brief pp. 8-10). The Examiner submits that the rejections of the above claims meet the criteria set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966) and clearly support the Examiner's position of obviousness.

With respect to the rejections of claims 46 and 47, Appellants argue that without the present disclosure as a guide, it is not clear why one skilled in the art would have combined Motter et al. and Hirmer with Bier et al. (see Appeal Brief p. 10) This argument is unpersuasive because the prior art—not the present disclosure—provides the motivation for doing so in order to impart water-resistant properties to the laminated glazing. (See Bier et al., col. 6, lines 5-10).

With respect to the rejections of claims 48, 50, and 51, Appellants again argue that without the present disclosure as a guide, it is not clear why one skilled in the art would have combined Motter et al. and Hirmer with Oliver et al. (see Appeal Brief p. 11) This argument is unpersuasive because the prior art—not the present disclosure—provides the motivation for doing so in order to impart decoration and optical selectivity to the laminated glazing. (See Oliver et al., col. 1, lines 5-27).

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With respect to the rejection of the process claims 53-61, Appellants argue that the Examiner's rationale to "scale up" the production process disclosed by Tatebayashi is nothing more than "obvious to try" without any reasonable predictability of success. Appellants assert that the fact situation is quite different from that of *Rose, supra*, and query whether the Examiner can identify any process used for making windows on the order of 50 mm in diameter that has also been used to make windows of a size for making motor vehicle windows. In reply, the Examiner pointed out that Tatebayashi does not particularly limit the size of the structures that can be made using his process. The Examiner submits that the scaling of production processes to make larger or smaller objects is nothing new in the art of polymer processing. For example, injection molding machines can range in size from having a platen (mold) size of 0.7 m x 0.7 m (molding capacity ~ 0.3 kg) to a size of 2.5 m x 5 m (molding capacity ~ 170 kg). See JEAN-MICHEL CHARRIER, POLYMERIC MATERIALS AND PROCESSING 469-70 (1991) (attached). Therefore, it would not be unreasonable for one skilled in the art to expect that the process taught by Tatebayashi can be used to make products larger in size than the 50 mm diameter disclosed in the example. The principle holding of *Rose*, that a change in size is not ordinarily a matter of invention, applies to the instant claim rejections. See 105 USPQ 237, 240 (1955) (rejecting the argument that increasing the size of a package such that it requires handling by a lift truck whereas the prior art packages can be lifted by hand is a patentably distinct invention). Decisions more recent than *Rose* have also upheld this principle. See *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("[M]ere scaling up of a prior art process capable of being

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scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled.”). In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

With respect to the rejections of claims 53-61, Appellants go on to further assert patentability without providing any additional reasons in support of their contention that the combination of Motter et al., Hirmer, and Tatebayashi neither discloses nor suggests that the claimed features. (see Appeal Brief pp. 13-15). The Examiner submits that the rejections of the above claims meet the criteria set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966) and clearly support the Examiner's position of obviousness.

With respect to the rejections of claims 44 and 63-65, Appellants argue that the subject matter of claims 44 and 63-65 is described in the specification in the paragraph bridging pages 4 and 5 and therefore is not satisfied by Motter et al's disclosure of cured organopolysiloxane compounds (see col. 4, lines 30-34). This is unpersuasive because claim 44 does not require all the features recited in the cited portions of the specification. Claim 44 can be interpreted to read on the cured organopolysiloxanes disclosed by Motter et al., as evidenced by the fact that dependant claim 45 recites that the inorganic scratch resistant layer can consist essentially of polysiloxanes.

Furthermore, as set forth in the rejections above, one skilled in the art would have found it obvious to use the Ormocer scratch resistant layers taught by EP '417 and EP '348 as

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the scratch resistant layers of the structure of Motter et al. Appellants own specification discloses that the varnishes are well known and meet the claim requirements.

With respect to the rejections of claims 44 and 63-65, Appellants go on to further assert patentability without providing any additional reasons in support of their contention that the combination of Motter et al., Hirmer, EP '417 and EP '348 neither discloses nor suggests that the claimed features. (see Appeal Brief pp. 16-17). The Examiner submits that the rejections of the above claims meet the criteria set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966) and clearly support the Examiner's position of obviousness.

(12) Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


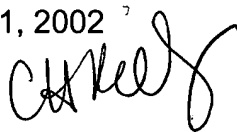


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